REBUILD AMERICA

close-up

Restoring New England Charm through Energy Efficiency

The Town of Fairfield, an historic community of 50,000 in coastal Connecticut, has taken key steps to help its leadership make informed decisions about the town's energy use.

The town's aging buildings and increasing energy costs led the Office of Public Works to explore a Rebuild America partnership. At a town meeting to educate potential partners about saving energy and money through the Rebuild America program, some participants expressed their skepticism about the benefits and were hesitant to join. Because many had participated in government programs that fared poorly, the city had to demonstrate the program's merits.

Leading by Example

The town partnered with the school board to form Rebuild Fairfield, which was charged with implementing energy efficiency upgrades in municipal buildings and schools. The town financed the projects directly through a Bond Act budget. To jumpstart the process, the state provided $150,000 in seed money through its own Rebuild America state partnership. Fairfield partnered with an energy service company, Johnson Controls, Inc (JCI), to conduct energy audits and detailed cost studies. To encourage an efficient retrofit, JCI provided a comprehensive energy audit with recommendations for building improvements and operating practices that increased both building comfort and energy savings.

Setting Your Standards High

Fairfield set ambitious goals to achieve 25 percent savings in energy use and a 25 percent reduction in energy expenditures. Additionally, Fairfield outlined provisions requiring the energy audit to examine multiple energy issues and to offer several solutions for energy savings. To ensure that their efforts were cost-effective, Fairfield considered a 5-year payback period for capital costs and a 10-year useful life guarantee of newly replaced equipment.

Fairfield High School is one of the school buildings that received energy and mechanical improvements.

Rebuild Fairfield also created a building energy specialist position to ensure the continued efficient operation of newly installed equipment. The energy specialist is a full-time JCI employee assigned to the partnership for the next five years; at that time the partnership has the option to continue the position for an additional five years. The energy specialist sets a preventative maintenance schedule and assigns

PARTNERSHIP FACTS

- **Total Building Area Committed**
  1.4 million square feet
- **Targeted Buildings**
  Municipal, schools, fire stations, library, and senior housing
- **Total Improvement Costs**
  $5.5 million
- **Avoided Energy & Capital Costs**
  $7.1 million

Rebuild America
U.S. Dept. of Energy

town and school employees, trained by JCI, to implement the schedule. The specialist also acts as a town consultant monitoring 35 buildings and calculating the energy savings. In addition, Fairfield set goals to incorporate measures that have a positive impact on air, water and land.

Put It Into Practice

Once the initial audits were complete, JCI reported on possible improvements to all lighting and mechanical equipment in more than 30 town and Board of Education buildings, including 14 schools, six fire stations, three administrative offices, two libraries, the police headquarters, a senior citizens center, a senior citizens living center and the public works garage.

Altogether, these improvements will cost approximately $5 million through the performance contract with JCI. Over the 10-year life of the contract, the various upgrades and improvements will save Fairfield $2.3 million in energy costs, $1.6 million in maintenance costs and $3.2 million in avoided capital costs - for a total of $7.1 million. JCI guarantees these savings and has vowed to write Fairfield a check for the difference if the savings are not met. The newly replaced equipment is expected to have a useful life of 15-20 years. Preventive equipment maintenance and performance assurance will be carried out by the energy specialist, whose duties include tracking and documenting energy savings, evaluating and recommending ongoing energy conservation measures, and troubleshooting and consulting for the energy-consuming systems in all town properties.

Work began in February 2000 and the town has implemented $5.5 million worth of improvements.

In addition to energy and monetary savings, Rebuild Fairfield's upgrades also will have an immediate and long-term effect on air quality. Indoor air quality will be enhanced by installing quality temperature controls, and outdoor air quality will be improved by installing high-efficient heating, ventilation, air conditioning and lighting equipment that indirectly reduces emissions of ozone, carbon monoxide and carbon dioxide.

The Road Ahead

The Town of Fairfield hopes to expand its partnership to include other organizations and additional goals. While the town is currently focused on energy savings incurred from changes in energy usage, there are plans to incorporate opportunities arising from utility deregulation.

As of July 1, 2000, Connecticut has deregulated the generation component of the electrical bill and the town is studying the possible benefits of aggregation. Fairfield is examining a partnership with the Connecticut Conference of Municipalities to aggregate statewide municipal buildings and explore the option of becoming the lead purchaser on behalf of the total residential and business communities that share the municipal energy usage.

By implementing these efforts, Fairfield hopes that others will join the partnership.

OFFICE OF
BUILDING TECHNOLOGY,
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